Brain Research Bulletin, Vol. 57, No. 6, pp. 857–868, 2002
Copyright © 2002 Elsevier Science Inc.
Printed in the USA. All rights reserved
0361-9230/02/$–see front matter

PII S0361-9230(02)00776-1

CONTENTS
VOLUME 57, 2002

CONTENTS VOLUME 57 NUMBER 1 JANUARY 1, 2002

Special Issue: Behavioral Neurogenetics

Foreword

Behavioral neurogenetics, the genetic dissection of brain and behavior.
Belzung, C., W. E. Crusio, and R. T. Gerlai 1

Articles

Hippocampal dysfunction and behavioral deficit in the water maze in mice: An unresolved issue?
Gerlai, R. T., A. McNamara, S. Williams, and H. S. Phillips 3

Chronic inhibition of glutamine synthetase is not associated with impairment of learning and memory in mice.
Blin, M., W. E. Crusio, T. Hévor, and J.-F. Cloix 11

Learned fear, emotional reactivity and fear of heights: A factor analytic map from a large F_2 intercross of Roman rat strains.
Aguilar, R., L. Gil, J. Flint, J. A. Gray, G. R. Dawson, P. Driscoll, L. Giménez-Llort, R. M. Escorihuela, A. Fernández-Teruel, and A. Tobeña 17

Wheel running behavior is impaired by both surgical section and genetic absence of the mouse corpus callosum.
Schalomon, P. M., and D. Wahlsten 27

The strain-specific involvement of nucleus accumbens in latent inhibition might depend on differences in processing configural- and cue-based information between C57BL/6 and DBA mice.
Restivo, L., E. Passino, S. Middei, and M. Ammassari-Teule 35

Behavioral and neuroanatomical characterization of FVB/N inbred mice.
Mineur, Y. S., and W. E. Crusio 41

Genetic diversity underlying capsaicin intake in the Mishima battery of mouse strains.
Furuse, T., D. A. Blizard, K. Moriwaki, Y. Miura, K. Yagasaki, T. Shiroishi, and T. Koide 49

Genetic basis of anxiety-like behaviour: A critical review.
Clément, Y., F. Calatayud, and C. Belzung 57

Corticosteroid receptors in the brain: Gene targeting studies.
Kellendonk, C., P. Gass, O. Kretz, G. Schütz, and F. Tronche 73

To die or not to die, does it change the function? Behavior of transgenic mice reveals a role for developmental cell death.
Rondi-Reig, L., and J. Mariani 85

5-HT$_{1B}$ receptor knockout mice show no adaptive changes in 5-HT$_{1A}$ receptor function as measured telemetrically on body temperature and heart rate responses.
Bouwknecht, J. A., T. H. Hijzen, J. van der Gugten, R. A. A. Maes, R. Hen, and B. Olivier 93

Reappraisal of the serotonin 5-HT$_{1B}$ receptor gene in alcoholism: Of mice and men.
Gorwood, P., F. Aissi, P. Batel, J. Adès, C. Cohen-Salmon, M. Hamon, C. Boni, and L. Lanfumey 103

Molecular genetics and animal models in autistic disorder.
Andres, C. 109

Glia in development, function, and neurodegeneration of the adult insect brain.
Kretzschmar, D., and G. O. Pflugfelder 121

CONTENTS VOLUME 57 NUMBER 2 JANUARY 15, 2002

Review Article

The role of nicotinic acetylcholine receptors in the mechanisms of anesthesia.
Tassonyi, E., E. Charpantier, D. Muller, L. Dumont, and D. Bertrand 133

Articles

Sexual dimorphism in the pituitary-adrenal response to tumor necrosis factor-α, but not to interleukin-6, in the rat.
Watanobe, H. 151

Environment associated with morphine and experience of aggression modulate behaviors of postdependent mice.
Rodríguez-Arias, M., C. M. Felip, M. A. Aguilar, and J. Miñarro 157

Effects of intracerebroventricular administration of 7-nitroindazole on tolerance to ethanol.
Wazlawik, E., and G. S. Morato 165

Nitric oxide reduces blood pressure in the nucleus tractus solitarius: A real time electrochemical study.
Wu, W. C., Y. Wang, L. S. Kao, F. I. Tang, and C. Y. Chai 171

Effects of selective cyclooxygenase enzyme inhibitors on lipopolysaccharide-induced dual thermoregulatory changes in rats.
Dogan, M. D., H. Ataoglu, and E. S. Akarsu 179

Spontaneous, low frequency (~2-3 Hz) field activity generated in rat ventral hippocampal slices perfused with normal medium.
Papatheodoropoulos, C., and G. Kostopoulos 187

Ethanol modifies differently aspartyl- and glutamyl-aminopeptidase activities in mouse frontal cortex synaptosomes.
Mayas, M. D., M. J. Ramírez-Expósito, M. J. García, M. Ramírez, and J. M. Martínez-Martos 195

Analysis of gene expression with cDNA microarrays in rat brain after 7 and 42 days of oral lithium administration.
Bosetti, F., R. Seemann, J. M. Bell, R. Zahorchak, E. Friedman, S. I. Rapoport, and P. Manickam 205

Neural correlates of perceptual priming of visual motion.
Jiang, Y., Y. J. Luo, and R. Parasuraman 211

A modified oddball paradigm "cross-modal delayed response" and the research on mismatch negativity.
Wei, J.-H., T.-C. Chan, and Y.-J. Luo 221

Evidence that nitric oxide production increases γ-amino butyric acid permeability of blood-brain barrier.
Shyamaladevi, N., A. R. Jayakumar, R. Sujatha, V. Paul, and E. H. Subramanian 231

Special Issue: Proceedings of the Third European Conference on Comparative Neurobiology: Modern Views on Brain Homologies

Editorial

Introduction to the Proceedings of the Third European Conference on Comparative Neurobiology: Modern Views on Brain Homologies.
Puelles, L., H. J. ten Donkelaar, and L. Medina 237

Articles

Session 1: On Brain Homology

Brain homology and function: An uneasy alliance.
Striedter, G. F. 239

Field homology as a way to reconcile genetic and developmental variability with adult homology.
Puelles, L., and L. Medina 243

Session 2: The Nervous System at the Invertebrate–Vertebrate Transition

Deuterostome brains: Synopsis and commentary.
Nieuwenhuys, R. 257

Compartments in the lamprey embryonic brain as revealed by regulatory gene expression and the distribution of reticulospinal neurons.
Murakami, Y., M. Ogasawara, N. Satoh, F. Sugahara, M. Myojin, S. Hirano, and S. Kuratani 271

***Pax6* expression patterns in *Lampetra fluviatilis* and *Scyliorhinus canicula* embryos suggest highly conserved roles in the early regionalization of the vertebrate brain.**
Derobert, Y., B. Baratte, M. Lepage, and S. Mazan 277

Immunocytochemical localization of calretinin in the olfactory system of the adult lamprey, *Lampetra fluviatilis*.
Pombal, M. A., M. C. de Arriba, C. Sampedro, R. Álvarez, and M. Megías 281

Proliferating cell nuclear antigen (PCNA) immunoreactivity and development of the pineal complex and habenula of the sea lamprey.
Villar-Cheda, B., E. Pérez-Costas, M. Meléndez-Ferro, X. M. Abalo, R. Rodríguez-Muñoz, R. Anadón, and M. C. Rodicio 285

Session 3: Neural Induction and Early Development of the Nervous System in Vertebrates

The effects of BMPs on early chick embryos suggest a conserved signaling mechanism for epithelial and neural induction among vertebrates.
Gallego-Díaz, V., G. C. Schoenwolf, and I. S. Alvarez 289

A neural plate fate map at stage HH4 in the chick: Methodology and preliminary data.
Fernández-Garre, P., L. Rodríguez-Gallardo, I. S. Alvarez, and L. Puelles 293

Analysis of *Fgf15* expression pattern in the mouse neural tube.
Gimeno, L., R. Hashemi, P. Brûlet, and S. Martínez 297

Session 4: Structural and Functional Organization of the Brainstem Across Vertebrates

The frog as a unique vertebrate model for studying the rhombomeric organization of functionally identified hindbrain neurons.
Straka, H., R. Baker, and E. Gilland 301

Comparative aspects of the hodological organization of the vestibular nuclear complex and related neuron populations.
Díaz, C., and J. C. Glover 307

Efferent connections of the vestibular nuclei in the rat: A neuromorphological study using PHA-L.
Matesz, C., T. Bácskai, É. Nagy, G. Halasi, and Á. Kulik 313

Primary afferent fibers establish dye-coupled connections in the frog central nervous system.
Bácskai, T., and C. Matesz 317

Differential expression of *Otx2*, *Gbx2*, *Pax2*, and *Fgf8* in the developing vestibular and auditory sensory organs.
Sánchez-Calderón, H., G. Martín-Partido, and M. Hidalgo-Sánchez 321

Origin and development of descending catecholaminergic pathways to the spinal cord in amphibians.
Sánchez-Camacho, C., O. Marín, J. M. López, N. Moreno, W. J. A. J. Smeets, H. J. ten Donkelaar, and A. González 325

Organization of cholinergic systems in the brain of different fish groups: A comparative analysis.
Rodríguez-Moldes, I., P. Molist, F. Adrio, M. A. Pombal, S. E. Pérez, J. Yáñez, M. Mandado, O. Marín, J. M. López, A. González, and R. Anadón 331

Identification of central nervous system neurons innervating the respiratory muscles of the mouse: A transneuronal tracing study.
Gaytán, S. P., R. Pásaro, P. Coulon, M. Bevengut, and G. Hilaire 335

Granule cell raphes in the cerebellar cortex of chicken and mouse.
Redies, C., R. Luckner, and K. Arndt 341

Neural substrata underlying tectal eye movement codification in goldfish.
Torres, B., M. P. Pérez-Pérez, L. Herrero, M. Ligero, and P. A. Nunez-Abades 345

The central mesencephalic grey in birds: Nucleus intercollicularis and substantia grisea centralis.
Dubbeldam, J. L., and A. M. den Boer-Visser 349

The avian griseum tectale: Cytoarchitecture, NOS expression and neurogenesis.
García-Calero, E., M. Martínez-de-la-Torre, and L. Puelles 353

Expression of AMPA-type glutamate receptors in pretectal nuclei of the chick brain.
Toledo, C. A. B., R. Pezzini, R. C. Santos, and L. R. G. Britto 359

Session 5: The Anamniote Forebrain: Development and Gene Expression

The teleostean forebrain: A comparative and developmental view based on early proliferation, *Pax6* activity and catecholaminergic organization.
Wullimann, M. F., and E. Rink 363

The early embryonic zebrafish forebrain is subdivided into molecularly distinct transverse and longitudinal domains.
Hauptmann, G., I. Söll, and T. Gerster 371

Expression domains of *neuroD* (*nrd*) in the early postembryonic zebrafish brain.
Mueller, T., and M. F. Wullimann 377

The telencephalon of the frog *Xenopus* based on calretinin immunostaining and gene expression patterns.
Brox, A., B. Ferreiro, L. Puelles, and L. Medina 381

Session 6: The Anamniote Forebrain: Neurochemistry, Connections and Function

Connections of the ventral telencephalon and tyrosine hydroxylase distribution in the zebrafish brain (*Danio rerio*) lead to identification of an ascending dopaminergic system in a teleost.
Rink, E., and M. F. Wullimann 385

Tyrosine hydroxylase immunoreactive neurons in the forebrain of the trout: Organization, cellular features and innervation.
Anadón, R., I. Rodríguez-Moldes, and A. González 389

Effects of dopaminergic drugs and telencephalic ablation on eye movements in the goldfish, *Carassius auratus*.
Dietrich, M., M. H. Hofmann, and H. Bleckmann 393

The effects of telencephalic pallial lesions on spatial, temporal, and emotional learning in goldfish.
Portavella, M., J. P. Vargas, B. Torres, and C. Salas 397

Distribution of melanin-concentrating hormone-like immunoreactivity in the central nervous system of *Rana esculenta*.
Lázár, G., J. L. Maderdrut, and I. Merchenthaler 401

Early development of NADPH diaphorase-expressing neurons in the brain of the urodele amphibian *Pleurodeles waltl*.
Moreno, N., J. M. López, C. Sánchez-Camacho, M. Crespo, M. Muñoz, and A. González 409

Evolutionary development of three gonadotropin-releasing hormone (GnRH) systems in vertebrates.
Dubois, E. A., M. A. Zandbergen, J. Peute, and H. J. Th. Goos 413

Responses of diencephalic neurons to sensory stimulation in the goldfish, *Carassius auratus*.
Kirsch, J. A., M. H. Hofmann, J. Mogdans, and H. Bleckmann 419

Forebrain AVT and courtship in a fish with male alternative reproductive tactics.
Grober, M. S., A. A. George, K. K. Watkins, L. A. Carneiro, and R. F. Oliveira 423

The nucleus subglomerulosus of the trout hypothalamus is a link between chemosensory and visual systems: A DiI study.
Folgueira, M., G. Huesa, R. Anadón, and J. Yáñez 427

Visual direction-selective neurons in the pretectum of the rainbow trout.
Klar, M., and K.-P. Hoffmann 431

Session 7: Thalamic Organization and Thalamo-Telencephalic Pathways in Amniotes

***Gbx2* expression in the late embryonic chick dorsal thalamus.**
Martínez-de-la-Torre, M., A.-L. Garda, E. Puelles, and L. Puelles 435

Organization of the mouse dorsal thalamus based on topology, calretinin immunostaining, and gene expression.
González, G., L. Puelles, and L. Medina 439

A proposed homology between the reptilian dorsomedial thalamic nucleus and the mammalian paraventricular thalamic nucleus.
Heredia, R., M. A. Real, J. Suárez, S. Guirado, and J. C. Dávila 443

Afferent and efferent projections of the dorsal anterior thalamic nuclei in the lizard *Podarcis hispanica* (Sauria, Lacertidae).
Desfilis, E., E. Font, M. Belekhova, and N. Kenigfest 447

Thalamo-telencephalic connections: New insights on the cortical organization in reptiles.
Guirado, S., and J. C. Dávila 451

Comparison of thalamic populations in mammals and birds: Expression of ErbB4 mRNA.
Bruce, L. L., H. I. Kornblum, and K. B. Seroogy 455

Session 8: Development, Evolution and Function of the Pallium in Vertebrates

The pallial amygdala of amniote vertebrates: Evolution of the concept, evolution of the structure.
Martínez-García, F., A. Martínez-Marcos, and E. Lanuza 463

Understanding the basic circuitry of the cerebral hemispheres: The case of lizards and its implications in the evolution of the telencephalon.
Lanuza, E., A. Novejarque, J. Moncho-Bogani, A. Hernández, and F. Martínez-García 471

Development and evolution of the collopallium in amniotes: A new hypothesis of field homology.
Butler, A. B., and Z. Molnár 475

An hypothesis on the early evolution of the development of the isocortex.
Aboitiz, F., J. Montiel, and J. López 481

Reelin immunoreactivity in the adult neocortex: A comparative study in rodents, carnivores, and non-human primates.
Martínez-Cerdeño, V., and F. Clascá 485

Patch/matrix patterns of gray matter differentiation in the telencephalon of chicken and mouse.
Redies, C., D. Kovjanic, D. Heyers, L. Medina, S. Hirano, S. T. Suzuki, and L. Puelles 489

Neuroepithelial origin of the insular and endopiriform parts of the claustrum.
Reblet, C., A. Alejo, R. I. Blanco-Santiago, J. Mendizabal-Zubiaga, M. Fuentes, and J. L. Bueno-López 495

Spatial memory and hippocampal pallium through vertebrate evolution: Insights from reptiles and teleost fish.
Rodríguez, F., J. C. López, J. P. Vargas, C. Broglio, Y. Gómez, and C. Salas 499

Continuity and discontinuity of the radial scaffolding in the forebrain of a lizard embryo.
Alonso, A., and C. M. Trujillo 505

GFAP expression withdraws—trend of glial evolution?
Kálmán, M. 509

Session 9: Basal Ganglia and Other Telencephalic Neural Circuits and Functions

Functional circuitry of the avian basal ganglia: Implications for basal ganglia organization in stem amniotes.
Reiner, A. 513

Electrophysiological analysis of a songbird basal ganglia circuit essential for vocal plasticity.
Perkel, D. J., M. A. Farries, M. Luo, and L. Ding 529

A putative striato-dorsal thalamic pathway in lizards.
Suárez, J., M. J. Andreu, R. Heredia, J. C. Dávila, and S. Guirado 533

Striato-amygdaloid transition area lesions reduce the duration of tonic immobility in the lizard *Podarcis hispanica*.
Davies, D. C., F. Martínez-García, E. Lanuza, and A. Novejarque 537

Neural substrates for processing chemosensory information in snakes.
Martínez-Marcos, A., E. Lanuza, and M. Halpern 543

Serotonergic innervation of the telencephalon in the domestic chick.
Metzger, M., C. Toledo, and K. Braun 547

Session 10: Functional Organization of the Mammalian Cortex: From Rodents to Humans

Species differences in the projections from the entorhinal cortex to the hippocampus.
van Groen, T., I. Kadish, and J. M. Wyss 553

Comparative aspects of the olfactory portion of the entorhinal cortex and its projection to the hippocampus in rodents, nonhuman primates, and the human brain.
Insausti, R., P. Marcos, M. M. Arroyo-Jiménez, X. Blaizot, and A. Martínez-Marcos 557

Functional asymmetry of emotions in primates: New findings in chimpanzees.
Fernández-Carriba, S., A. Loeches, A. Morcillo, and W. D. Hopkins 561

CONTENTS VOLUME 57 NUMBER 5 MARCH 15, 2002

Articles

Impaired dodging in food-conflict following fimbria-fornix transection in rats: A novel hippocampal formation deficit.
Oddie, S. D., I. J. Kirk, B. P. Gorny, I. Q. Whishaw, and B. H. Bland 565

Effect of immobilization stress on brain polyamine levels in spontaneously hypertensive and Wistar-Kyoto rats.
Sohn, H.-S., Y.-N. Park, and S.-R. Lee 575

Central noradrenergic blockade prevents autonomy in rat: Implication for pharmacological prevention of postdenervation pain syndrome.
Al-Adawi, S., G. S. Dawe, A. Bonner, J. D. Stephenson, and M. Zarei 581

Transgenic mice expressing the human presenilin 1 gene demonstrate enhanced hippocampal reorganization following entorhinal cortex lesions.
Kadish, I., L. Pradier, and T. van Groen 587

Pregnancy alters lateral parabrachial nucleus but not hypothalamic Fos expression following hypotensive hemorrhage.
Jaworski, R. L., D. Piekut, and M. L. Blair 595

Daily and circadian fluctuation in 2-deoxy[^{14}C]-glucose uptake in circadian and visual system structures of the chick brain: Effects of exogenous melatonin.
Cantwell, E. L., and V. M. Cassone 603

Effects of intracerebroventricular insulin microinjection on renal sodium handling in kidney-denervated rats.
Michelotto, J. B., J. B. C. Carvalheira, M. J. A. Saad, and J. A. R. Gontijo 613

Chronic central infusion of orexin-A increases arterial pressure in rats.
Lin, Y., K. Matsumura, T. Tsuchihashi, I. Abe, and M. Iida 619

NMDA and AMPA/kainate glutamatergic agonists increase the extracellular concentrations of GABA in the prefrontal cortex of the freely moving rat: Modulation by endogenous dopamine.
Del Arco, A., and F. Mora 623

Fos induction in cortical interneurons during spontaneous wakefulness of rats in a familiar or enriched environment.
Bertini, G., Z.-C. Peng, P. F. Fabene, G. Grassi-Zucconi, and M. Bentivoglio 631

Enhancement of paradoxical sleep by lights-off stimulation depends on sleep states.
Tsai, L.-L. 639

Modulation of apoptotic regulatory proteins and early activation of cytochrome C following systemic 3-nitropropionic acid administration.
Antonawich, F. J., S. M. Fiore-Marasa, and C. P. Parker 647

Expression of c-*fos* gene activation during rough and tumble play in juvenile rats.
Gordon, N. S., S. Kollack-Walker, H. Akil, and J. Panksepp 651

Effects of 14-methoxymetopon, a potent opioid agonist, on the responses to the tail electric stimulation test and plus-maze activity in male rats: Neuroendocrine correlates.
Urigüen, L., B. Fernández, E. M. Romero, N. De Pedro, M. J. Delgado, C. Guaza, H. Schmidhammer, and M. P. Viveros 661

Dynamic changes and spatial correlation of EEG activities during cold pressor test in man.
Chang, P. F., L. Arendt-Nielsen, and A. C. N. Chen 667

Effects of hypergravity on the morphological properties of the vestibular sensory epithelium. I. Long-term exposure of rats after full maturation of the labyrinths.
Wubbels, R. J., H. N. P. M. Sondag, J. van Marle, and H. A. A. de Jong 677

Effects of excitotoxic median raphe lesion on working memory deficits produced by the dorsal hippocampal muscarinic receptor blockade in the inhibitory avoidance in rats.
Babar, E., E. Melik, T. Özgünen, and S. Polat 683

The interaction of morphine and γ-aminobutyric acid (GABA)ergic systems in anxiolytic behavior: Using μ-opioid receptor knockout mice.
Sasaki, K., L.-W. Fan, L.-T. Tien, T. Ma, H. H. Loh, and I. K. Ho 689

[Phe$^1\Psi$(CH$_2$-NH)Gly^2]NC(1-13)NH$_2$ does not antagonize orphaninFQ/nociceptin- induced prolactin release.
Bryant, W., P. Callahan, E. Murphree, and J. Janik 695

Parabrachio-cortical connections with the lateral hemisphere in the Madagascan hedgehog tenrec: Prominent projections to layer 1, weak projections from layer 6.
Künzle, H., S. Radtke-Schuller, and B. von Stebut 705

Leptin affects the electrical activity of neurones in the hypothalamic supraoptic nucleus.
Honda, K., K. Narita, T. Murata, and T. Higuchi 721

Central infusion of vasopressin in male rats accelerates extinction of conditioned taste avoidance induced by LiCl.
Hayes, U. L., and K. C. Chambers 727

CONTENTS VOLUME 57 NUMBER 6 APRIL 2002

Special Issue: The Impact of Stem Cell Research on Neural Transplantation

Foreword

Stem cells, neurotrophins and transplantation: A new era in brain repair.
García-Verdugo, J. M., and A. Alvarez-Buylla 735

Articles

Neuronal replacement in adult brain.
Nottebohm, F. 737

Identification of neural stem cells in the adult vertebrate brain.
Alvarez-Buylla, A., B. Seri, and F. Doetsch 751

Investigating the use of primary adult subventricular zone neural precursor cells for neuronal replacement therapies.
Lim, D. A., N. Flames, L. Collado, and D. G. Herrera 759

The proliferative ventricular zone in adult vertebrates: A comparative study using reptiles, birds, and mammals.
García-Verdugo, J. M., S. Ferrón, N. Flames, L. Collado, E. Desfilis, and E. Font
..... 765

Radial glial cells as neuronal precursors: A new perspective on the correlation of morphology and lineage restriction in the developing cerebral cortex of mice.
Götz, M., E. Hartfuss, and P. Malatesta 777

Genetic perpetuation of *in vitro* expanded human neural stem cells: Cellular properties and therapeutic potential.
Villa, A., B. Navarro, and A. Martínez-Serrano 789

Stem cells in the treatment of Parkinson's disease.
Arenas, E. 795

Regulation of neurogenesis by neurotrophins in developing spinal sensory ganglia.
Fariñas, I., M. Cano-Jaimez, E. Bellmunt, and M. Soriano 809

Neuroprotection by neurotrophins and GDNF family members in the excitotoxic model of Huntington's disease.
Alberch, J., E. Pérez-Navarro, and J. M. Canals 817

CNS stem cell transplantation: Clinical and ethical perspectives.
Grisolía, J. S. 823

Remyelination of the demyelinated CNS: The case for and against transplantation of central, peripheral and olfactory glia.
Franklin, R. J. M. 827

Neurotrophic factors, gene therapy, and neural stem cells for spinal cord repair.
Blesch, A., P. Lu, and M. H. Tuszynski 833

Models of repair mechanisms for future treatment modalities of Parkinson's disease.
Isacson, O. 839

Dopaminergic cells of the carotid body: Physiological significance and possible therapeutic applications in Parkinson's disease.
Toledo-Aral, J. J., S. Méndez-Ferrer, R. Pardal, and J. López-Barneo 847

Volume 57 List of Contents 857

Author Index 869

Keyword Index 871